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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/619,988

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EXAMINER

CHEN, ALAN S

ART UNIT

PAPER NUMBER

2182

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 10/619,988	Applicant(s) BIRAN ET AL.	
	Examiner Alan S. Chen	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Per the drawings, Fig. 2, element 270 should be labeled "170" based on the specification, page 6, line 22. Fig. 4 also has a conflicting label "170". In the Fig. 3, "USER SPACE" does not have a corresponding numeric label (*pg. 8, third paragraph indicates it should be referenced as "90"*). Fig. 5, the PLB is no numeric labeled (*pg. 15, third paragraph indicates it should be referenced as "390"*).
2. The objection to the specification has been withdrawn.
3. Applicant's arguments, filed 11/17/2006, with respect to the 35 U.S.C. §112 rejections have been fully considered and are persuasive. The 35 U.S.C. §112 rejections of claims 1-20 has been withdrawn.
4. Applicant's arguments filed 11/17/2006 with respect to the 35 U.S.C. §101 rejections of claims 1-8 have been fully considered but they are not persuasive. The limitations for claim 1 can be purely functional descriptive material, per se, and do not require associated hardware. This is nonstatutory per MPEP 2106.01. The arguments for 35 U.S.C. §101 rejections of claims 17-19 have been fully considered and are persuasive. The corresponding rejections are hereby withdrawn.
5. It is noted that applicant will file a terminal disclaimer to vacate the double patenting rejection. The double patenting rejection will be maintained herein, until the terminal disclaimer is filed and approved.
6. Applicant's arguments filed 11/17/2006 with respect to the prior art have been fully considered but they are not persuasive. Examiner rebuttal is detailed below.

Applicant argues against the equivalence of “multistream data packet transfer” cited by the prior art to Yee et al. (*Yee*) and the claim language “controlling data flow” between processing systems (*pg. 16, lines 11-13 of Remarks*). Examiner does not agree since “controlling data flow” simply refers to handling how a data is transmitted from one destination to another. Yee anticipates this, where data streams (*by definition being data flows*) are controlled by an interface controller (*Fig. 1, element 116*) directing the data streams from a memory (*Fig. 1, element 106*) to processors (*Fig. 1, elements 110 or 112*). Column 3, lines 40-50 and Column 4, lines 20-45 further disclose the use of descriptors which assist the interface controller in knowing where the next set of data is, the size of the data, the size of data left to transfer, etc.

Applicant next argues that “descriptor logic” is not used in the same sense as the claims and as described in the specification (*pg. 17, lines 22-27 of Remarks*). Examiner does not agree. First, the claims are silent as to the details of the structure of the descriptor logic. Any hardware/software structural configuration can read on the “descriptor logic”. Turning to the specification, there is little more detail to descriptor logic, only that it “generates and modify the descriptors according to control measures to be taken” (*pg. 26, lines 6-13*). Yee meets the above by showing various descriptor logic in Fig. 3, portions of the descriptor logic dealing with creation and use (*Fig. 3, element 150*).

Applicant next argues that Yee uses similar wording as the claims, however Yee is intended for a different context (*pg. 18, lines 19-23*) and that “descriptor logic” is used in a different sense in Yee. Examiner does not agree, the metes and bounds of the current set of claim language encompasses Yee in scope. Examiner recommends additional claim language to limit the context of the claims to that of what Applicant intends.

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Applicant next argues for claims 3 and 13 that Yee is not concerned with descriptor logic in the same sense as the instant application. Examiner reapplies his previous rebuttal above, on this matter.

7. Applicant's arguments, filed 11/17/2006, with respect to the 35 U.S.C. 103(a) rejection of claims 4-6, 13 and 14 have been fully considered and are persuasive. The 35 U.S.C. 103(a) of claims 4-6, 13 and 14 has been withdrawn.

### *Drawings*

8. The drawings are objected to because Fig. 2, element 270 should be labeled "170" based on the specification, page 6, line 22. Fig. 4 also has a conflicting label "170". In the Fig. 3, "USER SPACE" does not have a corresponding numeric label (pg. 8, third paragraph indicates it should be referenced as "90"). Fig. 5, the PLB is no numeric labeled (pg. 15, third paragraph indicates it should be referenced as "390").. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

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accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

9. Claim 18 objected to because of the following informalities: the claims should be clarified as follows: in line 13, after the terms "data processing system", insert ", the data processing system". This clarifies the antecedent basis related to the ensuing term "comprising".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

10. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

11. Claims 1-8 are rejected under 35 U.S.C. 101 because the claims are not limited to tangible embodiments. Claim 1 purport to be an apparatus, however there are no hardware limitations describing the apparatus. The added limitation to computer readable medium can also not be hardware based. A descriptor logic, pointer descriptor and descriptor table are used by the apparatus but not part of the claim apparatus. They can purely be functional descriptive material, per se, and do not require associated hardware according to claim 1. Claims 2-8 are rejected based on being dependent on a rejected base claim.

### ***Double Patenting***

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference

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claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No.

10/619960 based on reasons stated in the previous Office Action.

This is a provisional obviousness-type double patenting rejection.

#### *Claim Rejections - 35 USC § 102*

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claims 1,2,7-11 and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by US Pat. No. 6,466,581 to Yee et al. (*Yee*).

16. Per claim 1, Yee discloses an apparatus (*Fig. 1 is a multistream data packet transfer apparatus; Column 3, lines 20-35 describe the apparatus in short*) comprising: descriptor logic

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*(Fig. 3 shows various logic elements that directly deal with creation and use; Fig. 3, element 150, for instance contains descriptors describing location of descriptor table and size of data needed; Fig. 3, element 106 contains descriptor table containing various descriptor entries) on a computer readable medium (Fig. 3, element 122), said apparatus for controlling flow of data (descriptors control how "data streams" are utilized in multimedia processing in the apparatus of Fig. 1; The "data streams" are by definition "flows of data" used in real-time multimedia applications. The descriptors in Yee control how the data streams are processed; Fig. 4 is an illustration how data streams are controlled via descriptors) between first and second data processing systems (Fig. 1, descriptor logic elements 100 and 106 control flow of data between host system CPU, element 104 and DSPs, elements 110 and 112; the host CPU is representative of the first data processing system and the DSPs are representative of the second data processing system), via a memory (Figs. 1 and 3, element 106 show the descriptors that control the flow of data being stored in system memory), said descriptor logic generating, a plurality of descriptors (Fig. 3, elements 150 and 107; Column 7, lines 1+ disclose generating descriptors that tracks up to 32 active data streams) including a frame descriptor defining a data packet to be communicated between a location in the memory and the second data processing system (Fig. 3, elements 150; Column 3, lines 40-50 and Column 7, lines 33-40 disclose a descriptor that defines the size information of the data stream, the data stream being associated with a data packet, "For each stream, one register in the groups contains...the size of descriptor table"; the descriptor table is in the memory, Fig. 3, element 106 and contains detailed information about each stream and how the DSPs should handle the stream, see Column 1, lines 43-51. Note, nowhere in this limitation describes in any detail whatsoever what it means to define a data*



*packet, i.e., it could be a partial definition or a full definition of all the details of a data packet or it can be simple a pointer to another location where the data packet is defined, etc.), a pointer descriptor identifying the location in memory (Fig. 3, elements 150; Column 3, lines 40-50, "...descriptor table address location"); and a descriptor table for storing on a computer readable medium, the descriptors generated by the descriptor logic for access by the first and second data processing systems (Fig. 3, element 107).*

17. Per claims 9,10,17-20, claim 1 is substantially similar to claims 9,10,17-20 and therefore the rejection is applied accordingly. Yee discloses an associated method with the apparatus of claim 1 (*Figs. 4 and 6*), as well as associated computer program product (*Fig. 1*), program storage device (*Fig. 3, element 122 and 106*) and article of manufacture (*Fig. 1*). Specifically for claim 9, Fig. 1 is construed to be the data processor unit of the preamble, the data communication interface is the bus between host CPU and DSP units. The PCI bus (*Fig. 1, element 108*) can communicate with multiple device that is attached to it, being construed here as the data communications network of the multiple devices.

18. Per claims 2, 7,11 and 15, Yee discloses claims 1 and 10, Yee further discloses using a Logical Communications Port architecture (*LCP is very generally defined on page 8, lines 18-26 as "...a framework for the interface between local consumers running on the host computer and adapter". It further goes on to using open-ended language as to suggest what LCPs could have; Yee discloses interfacing between a host and secondary DSP systems, e.g., the consumers and producers, via an controller adapter, element 100, meeting this general definition of LCP*), and the descriptor table is stored in the first data processing system (*Fig. 3, element 106 is system*

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*memory, by definition being the host CPU memory as shown in Fig. 1).* The first data processing system comprises a host computer system (*Fig. 1, element 104, host CPU*).

19. Per claims 8 and 16, Yee discloses claims 1 and 10, Yee further discloses the second data processing system (*Fig. 1, elements 110 and 112*) comprising a data communication interface (*Fig. 1, buses 130 and 132*) for communicating data between host computer (*Fig. 1, element 104*) and data communications network (*Fig. 1, element 108*).

### ***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

22. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

23. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yee.

Yee discloses claims 1 and 10 of which claims 3 and 12 depend. Yee further discloses descriptor tables being accessible by the second processing system (*Fig. 4, descriptors let DSP access data streams for processing*).

Yee does not disclose expressly the descriptor table being stored in the second processing system.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement the descriptor tables in the second processing system, where the DSP units (*Fig. 3, elements 110 and 112*) are located.

The suggestion/motivation for doing so would have been a matter of design choice. Yee has the host processor generate the descriptor tables (*Fig. 4, element 200*), so the host system memory (*Fig. 3, element 106*) would logically be used to store the descriptor tables, which Yee does (*Fig. 3, element 107*). However, the tradeoff here is the increased latency subjected to the DSP units in reading from the descriptor tables, having to traverse multiple interfaces (*Fig. 3, PCI bus, at minimum, must be arbitrated for to get access to Descriptor Tables*). If the host processor stored the descriptor tables in a memory directly connected to DSP units, the latency to access the descriptor tables by the DSP units would be significantly reduced, with the tradeoff here being host write of descriptor tables being slower. Therefore, it would have been obvious to implement the descriptor tables on the second data processing system for faster access by the DSP units.

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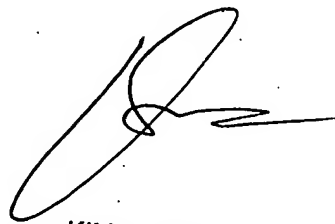
***Conclusion***

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

  
KIM HUYNH  
SUPERVISORY PATENT EXAMINER  
2/1/07

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ASC

02/01/2007